

WE CLAIM:

1. A method for determining jitter in a packet network, transporting a plurality of sequential packets having payloads assembled according to a specified codec, comprising the
5 steps of:

detecting the arrival time of a first network packet;

determining the duration of said first network packet;

determining the anticipated arrival time of a subsequent network packet based upon said detected arrival time of said first network packet and said determined duration of said first
10 network packet;

detecting the arrival time of said subsequent network packet; and

determining network jitter based upon the difference between said anticipated arrival time and said detected arrival time of said subsequent network packet.

15 2. The method of Claim 1, wherein said duration of said first network packet is determined by:

detecting the size in bits of the payload of said first network packet; and

multiplying said bit size of said payload by the time-duration-per-bit ratio of the packet
20 codec used to encode the packet payload.

3. The method of Claim 1, wherein said anticipated arrival time of said subsequent network packet is determined by adding said determined duration of said first network packet to said arrival time of said first network packet.

5 4. The method of Claim 1, wherein:
said step of detecting the arrival time of said first network packet utilizes a time stamp reference at a packet receiving apparatus without reference to network time stamping of said packet.

10 5. The method of Claim 3, wherein:
said step of detecting the arrival time of said subsequent network packet utilizes a time stamp reference at a packet receiving apparatus without reference to network time stamping of said packet.

15 6. The method of Claim 1, wherein said subsequent network packet immediately follows said first network in said sequence.

7. The method of Claim 1, wherein said subsequent network packet is spaced by a predetermined number of packets from said first network packet.

8. The method of Claim 1, further comprising the step of:
identifying said subsequent network packet based upon the sequence of said network
packets.

5 9. The method of Claim 8, wherein said sequence is used to identify each subsequent
network packet immediately following each network packet in said sequence.

10 10. The method of Claim 6, wherein said sequence identifier is used to identify
subsequent network packets spaced by a number of packets from each respective first network
packet.

15 11. A method for determining jitter in a series of packets containing audio payloads in
a packet network, at a receiving apparatus in said packet network, comprising the steps of:
providing a timing apparatus at said receiving apparatus;
detecting the arrival time of each network packet with reference to said timing apparatus;
determining the duration of each network packet audio payload;
determining the anticipated arrival time of respective subsequent network packets
following each network packet, based upon said detected arrival time of each network packet and
said determined duration of each network packet;

detecting the arrival time of said respective subsequent network packets;
determining network jitter based upon the difference between said anticipated arrival time
and said detected arrival time of said respective subsequent network packets;
maintaining a running average of said determined jitter between each adjacent network
5 packet pair.

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